

**Tuesday, November 4, 2014**  
**PLENARY SESSION I**  
**9:30 a.m. / Building 34 -Conference Room W150**

- 9:30 a.m. *Welcome and Information*  
Brook Lakew, Associate Director for Planning, Research and Development  
Colleen Hartman,  
Christopher Scolese, Director, NASA Goddard Space Flight Center

**Tuesday, November 4, 2014**  
**REVIEWS OF INSTRUMENTS ON PAST MISSIONS**  
**10:00 a.m. / Building 34 -Conference Room W150**

**Chairs: S. Feldman, (JPL)**  
**B. Lakew (GSFC)**

- 10:00 a.m. Mather J. C. \*  
*Planets, Asteroids, Comets, Satellites, and KBO's: How You Can Use the JWST* [#1015]  
The James Webb Space Telescope (JWST) is planned for launch in 2018. Its four instruments will provide cameras and spectrometers over the full range from 0.6 to 28.5  $\mu\text{m}$ , with coronagraphs and capabilities to observe transiting exoplanets.
- 10:30 a.m. Zuber Maria T. Smith David E. \*  
*Gravity Recovery and Interior Laboratory: From Satellite-to-Satellite Ranging to High-Resolution Gravity of the Moon* [#1121]  
The GRAIL Discovery mission provided a high accuracy, high resolution gravity field of the Moon which is providing new insight into the lunar crust and interior.
- 10:50 a.m. Yingst R. A. \* Edgett K. S. Kennedy M. R. Minitti M. E. Ravine M. A.  
*Cameras on Landed Payload Robotic Arms — MAHLI on Mars and Lessons Learned from One Mars Year of Operations.* [#1031]  
The MSL MAHLI has proven to be robust, efficient in operation, and flexible in the images and derivative products it yields. We present an overview of the MAHLI investigation Primary Mission activities and results, and key lessons learned thus far.
- 11:05 a.m. Yanamandra-Fisher P. A. \*  
*Polarimetric Methods and Instrumentation for Solar System Exploration* [#1048]  
Polarization is a complementary technique to imaging and spectroscopy for remote sensing measurements of the solar system and beyond. My talk will highlight inclusion of polarization as a technique in future mission and ground-based instrumentation.
- 11:20 a.m. Fedorov A. \* Barabash S. Lundin R.  
*Mars Express ion mass spectrometer for Mars plasma environment. The lessons of the instrument design and data analysis* [#1146]  
Looking forward to MAVEN data in the near future, we asking ourselves what did we obtain and what did we miss with Mars Express plasma data regarding the phenomenon of the martian induced magnetosphere and the martian ionosphere escape.

11:35 a.m. Nixon C. A. \* Chan C. Y. Albright S. Gorius N. Brasunas J. et al.  
*The Cassini Composite Infrared Spectrometer (CIRS): lessons learned in design and operations*  
[#1144]

In this paper we discuss the various types of electrical noises that arise in the Cassini CIRS instrument, as well as the prevention and mitigation strategies that the team has developed to eliminate or minimize the effects.

11:50 a.m. **LUNCH BREAK**

**Tuesday, November 4, 2014**  
**CONTRIBUTED TALKS ON EXITING AND UPCOMING MISSIONS**  
**1:00 p.m. / Building 34 -Conference Room W150**

**Chairs: R. Lorenz (APL)**  
**C. Milam (GSFC)**

1:00 p.m. Bhardwaj A. \*  
*Indian Mars Orbiter Mission* [#1089]  
The Mars Orbiter Mission (MOM) is the first interplanetary mission of India launched by Indian Polar Satellite Launch Vehicle (PSLV-XL) on 5 November 2013. MOM will reach Mars on Sept. 24, 2014.

1:20 p.m. Senske D. \* Prockter L. Pappalardo R. Paczkowski B. Vance S. et al.  
*Exploring Europa with the Europa Clipper* [#1019]  
The Europa Clipper concept provides an efficient means to explore Europa and investigate its habitability. The ability to evaluate sites for a potential future lander would also be enabled by the Clipper.

1:40 p.m. Cable M. L. \* Blaney D. L. Hibbitts C. A. Kim W. Murchie S. L. et al.  
*Retiring Risk with the Europa Short Wavelength Infrared Spectrometer (ESWIRS)* [#1044]  
In preparation for an instrument proposal for the upcoming Europa mission call, we have built and tested a Europa Short Wavelength Infrared Spectrometer (ESWIRS) development model to retire risk in radiation mitigation and planetary protection.

1:55 p.m. Thomas N. Spohn T. Lara L.-M. Christensen U. Seiferlin K. \* et al.  
*The BepiColombo Laser Altimeter* [#1049]  
The BepiColombo Laser Altimeter is currently in flight model testing for launch in 2016. Novel aspects of the instrument will be presented.

2:10 p.m. Yoshikawa M. \* Kuninaka H. Inaba N. Tsuda Y. Hayabusa Project Team et al.  
*Hayabusa2, The New Challenge based on the Lessons Learned of Hayabusa* [#1050]  
Hayabusa2, the follow-on mission of Hayabusa, will be launched at the end of 2014. Hayabusa2 has been changed in many parts, because we learned a lot from Hayabusa. In this paper, Hayabusa2 mission is introduced in comparison with Hayabusa mission.

- 2:25 p.m. Jaumann R. \* Bibring J. P. Glassmeier K. H. Grott M. Ho T. M. et al.  
*A Mobile Asteroide Surface Scout (MASCOT for the Hayabusa 2 Mission* [#1051]  
 MASCOT, will support JAXA's Hayabusa 2 mission to investigate the C-type asteroid 1999 JU3. Main objective is to in-situ map the asteroid's geomorphology as well as the intimate structure, texture, physical properties, and composition of the regolith.
- 2:40 p.m. **COFFEE BREAK**
- 3:10 p.m. Benna M. \* Mahaffy P. R. Harpold D. King T.  
*Neutral and Ion Mass Spectrometers for the Ladee and Maven Missions* [#1056]  
 Two similar quadrupole mass spectrometers, the Neutral Gas and Ion Mass Spectrometer (NGIMS) on MAVEN and the Neutral Mass Spectrometer (NMS) on the LADEE Mission are described.
- 3:25 p.m. Ravine M. A. \* Schaffner J. A. Caplinger M. A.  
*ECAM, a Modular Spaceflight Imaging System—Case Studies* [#1114]  
 MSSS has developed ECAM, a modular spaceflight imaging system. There are current three ECAM systems in development, including one which will fly on the OSIRIS-REx Mission.
- 3:40 p.m. Hurford T. A. \* Mandell A. OPIS Team  
*Observatory for Planetary Investigations from the Stratosphere (OPIS)* [#1124]  
 The OPIS mission aims to demonstrate the usefulness of balloon-borne observations for planetary science research.
- 4:00 p.m. Dickinson C. S. \* Daly M. Barnouin O. Johnson C. Bierhaus B. et al.  
*THE OSIRIS-REx LASER ALTIMETER (OLA)* [#1142]  
 The OSIRIS-REx Laser Altimeter (OLA) is a contribution of the Canadian Space Agency to the OSIRIS-REx Mission to return a sample from carbonaceous asteroid (101955 Bennu. Operational scenarios and results of EM testing will be presented.